Neuropsychological evaluation of patients suspected of early Alzheimer's disease

diagnoses, and 5.3 correct etiological diagnoses. In contrast, all syndromal and etiological diagnoses made by EVINCE were correct. Moreover, the disciplines displayed significant preferences for certain diagnoses. For example, neurologists used the diagnosis AD more often than clinicians from other disciplines. The experiments show that EVINCE can be considered a good replica of medical expertise on the subject matter. Because standardized diagnostic procedures are essential for research into etiology, pathogenesis and experimental interventions in dementia patients, especially in Alzheimer's Disease, the ES EVINCE could be an important tool.

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NEUROPSYCHOLOGICAL EVALUATION OF PATIENTS SUSPECTED OF EARLY ALZHEIMER'S DISEASE: EXPERIMENTAL STUDIES WITH AGE ASSOCIATED MEMORY IMPAIRMENT AND DYSTHYMIA. * E. Reyersen van Buuren, J. Jolles and P.J. Houx. Dept. Neuropsychology & Psychobiologie; Limburg University; Box 616; 6200 MD Maastricht; The Netherlands.

It appears to be very difficult -if at all possible- to detect Alzheimer's desease in stages in which no dementia is present. In the earlier stages (2 and 3 on the Global Derioration Scale-Reisberg) cognitive dysfunctions can be assessed but it is not clear whether these subjects may develop AD later in life. Longitudinal research is necessary to evaluate such a hypothesis. As a first step in a large longitudinal followup study in the Alzheimer research center in Maastricht, The Netherlands, we evaluated the nature of the cognitive dysfunctions in patients who are suspected to be in an early stage of primary degenerative dementia or to be at risc to be afflicted by such a condition. In a first experiment, 15 subjects aged 41 through 60 who were diagnosed as suffering from dysthymic disorder were compared to 15 healthy age matched controls. It appeared that there were deficits in secondary memory like aquisition and active retrieval from memory; in addition, memory consolidation and general speed of information processing were inferior in the patients. There were no deficits in primary memory such as in digit span and in block span. Identical findings were done in the second experiment in which 20 patients suffering from Age Associated Memory Impairment (AAMI, age 40-70 years) were compared to matched controls. A two years follow up of subjects from the 2 studies has been done. At the follow up assessment it appeared that the performance of patients without depression was inferior to that of patients with depression. The results of these studies are indicative of the relevance of neuropsychological contributions to early diagnosis of degenerative brain disease, especially AD. The sensitivity of cognitive neuropsychological methods enables an objective establishment of minor cognitive dysfunctions which are not evident with gross, psychometric tests and observation scales. The use of these measures for longitudinal research on early phases of Alzheimer's disease is recommended.

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CLINICAL MARKERS OF EARLY ALZHEIMERS DISEASE. *S.H. Ferris, C. Flicker, B. Reisberg, M.J. de Leon. Aging and Dementia Research Center, NYU Medical Center, New York, 10016 USA.

We will review recent research seeking to identify or develop an early clinical marker for Alzheimers disease (AD), i.e., a reliable and valid measure that can be detected before the onset of cognitive symptoms or before these symptoms are severe enough to warrant a clinical diagnosis of AD. Such an early marker would be extremely useful for studying the early course and pathophysiology of AD, since the marker would enable reseachers to select "enriched" study samples containing subjects at high risk for developing AD clinically over the subsequent several years. Promising research directions in the search for early predictors of AD include study of specific patterns of mild cognitive deficit, use of in vivo brain imaging techniques to detect signs of early atrophic change, sensory system deficits and patterns of electrophysiological abnormality. The status of these and other current approaches will be discussed.

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PSYCHOPATHOLOGY AND FRONTAL LOBE INVOLVEMENT IN PRIMARY DEGENERATIVE AND VASCULAR DEMENTIA. 1. CLINICAL ASPECTS. Lars Gustafson*, Department of Psychogeriatrics, Arne Brun Department of Pathology, University of Lund, Lund, Sweden

The aim of the study was to analyse the diagnostic significance of frontal lobe symptoms in dementia. These symptoms are most frequent in Pick's disease and frontal lobe dementia of non-Alzheimer type. Their presence in other dementias may complicate the diagnostic decision.

These clinical questions have been analysed in a longitudinal dementia study. The patients went trough a neuropsychiatric investigation including EEG, regional cerebral blood flow (rCBF) measurement (133 Xe inhalation technique) and in most cases CT. 28 patients with progressive dementia and marked personality changes and other indications of frontal lobe dysfunction were selected for the study.

Results from five patient groups based on the neuropathological findings are presented. Group 1) Dementia of Alzheimer type (DAT) with frontal predominance. This group contained four cases with a mean age at death of 78 ± 7,6 years. They showed a typical Alzheimer type dementia with dysmnesia, dysphasia, dyspraxia and spatial disorientation. In addition to this however they showed aggressiveness, inadequate laughing, vocally disruptive behaviour and other frontal lobe symptoms already at an early stage of the disease. Group 2) Three cases with mainly fronto bilateral selective incomplete white matter infarction (SIWI). The mean age at death was 72 ± 13 years. The patients showed progressive personality changes with an irritability and unrestrained behaviour in combination with memory failure and gait disturbances. Psychotic reactions with visual hallucinosis were found in two cases and the differential diagnosis against nonorganic mental diseases was difficult. Blood pressure was generally low in this group (mean blood preasure 96 ± 12 mm Hg). Group 3) Binswanger's disease. Three cases with a mean age at death of 74 ± 7 years. The dementia was progressive with episodic deterioration and epileptic phenomena. The frontal lobe involvment was mainly indicated by emotional symptoms such as euforia and apathy. Vascular dementia was indicated by the clinical features but differential diagnosis against DAT was difficult. Group 4) contained two unique cases with frontal vascular lesions. Group 5) contained sixteen cases of degenerative frontal lobe dementia of non-Alzheimer type (FLD).
In conclusion. Symptoms indicating frontal lobe damage are common in both vascular and primary degenerative dementias. Differential diagnosis of dementia has to consider the type and severety of the frontal lobe symptoms, the time of debut, and the combination with other psychiatric and neurological symptoms. Differential diagnosis against nonorganic mental diseases may be difficult especially in dementia with duration over 15-20 years, as was the case in several of our patients.

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A BRIEF ASSESSMENT BATTERY FOR THE DIAGNOSIS OF PROBABLE ALZHEIMER'S DISEASE. * M.C.Tierney, G. Snow, A. Nores, M.L. Zorzitto, R. Fisher, D. Reid. Sunnybrook Health Science Centre, University of Toronto, Toronto, Canada, M4N3M5.

The NINCDS-ADRDA diagnostic criteria for Alzheimer's Disease have received wide acceptance in research protocols. Studies examining their validity have been promising. Use of these criteria, however, necessitates lengthy and costly assessment of patients. The purpose of this study was to determine whether a reduction in the number of assessments could produce as accurate a discrimination as the full battery. Our sample consisted of 197 participants each of whom had individual medical, neuro-psychological and behavioural assessments based on the NINCDS-ADRDA criteria. Participants were then classified as neurologically normal (N=96), Probable Alzheimer's (N=56) or 'Other Dementias' (N=45). More than 50 clinical measures were administered to our participants as part of the diagnostic work-up. Discriminant function analyses indicated that a small battery of neuropsychological and neurological measures differentiated among the three groups with 100% accuracy. This battery requires no more than thirty minutes to administer. While this level of accuracy has been reported in some studies which differentiated normals from dementing individuals, no previous study to date has ever reported such high accuracy rates in the distinction among the dementias.

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INCREASED SERUM INSULIN-LIKE GROWTH FACTOR-I CONCENTRATIONS IN INSTITUTIONALIZED WOMEN WITH ALZHEIMER'S DISEASE. LR Donahue, *CJ Rosen, AA Spindler, JF Nichols, JW Ramsdell, and MJ Renvall. Dept. of Internal Medicine, University of California San Diego, and the Dept.of Nutrition, University of Maine, Orono Maine 04473, USA.

Variable changes in growth hormone (GH) concentration have been reported in Alzheimer's patients (ALZ). Insulin-like growth factor-I